What is claimed is:

1. A scanning microscope comprising a light source which evanescently illuminates a sample placed on a slide, further comprising a point detector which receives detection light emanating from a scanning point of the sample, and further comprising a beam deflection device disposed in the optical path of the detection light for shifting the position of the scanning point in the sample.

2. The scanning microscope as recited in Claim 1,
wherein the illuminating light can be coupled into the slide or into the cover slip of the sample.

3. The scanning microscope as recited in Claim 2,
wherein the scanning microscope has a condenser, and
the illuminating light can be coupled into the slide through the condenser.

4. The scanning microscope as recited in Claim 2,
wherein the scanning microscope has an objective lens, and
the illuminating light can be coupled into the cover slip through the objective lens.

5. The scanning microscope as recited in Claim 4,
wherein the objective has an objective pupil, and
the illuminating light passes through the outer edge region of the objective pupil.

6. The scanning microscope as recited in Claim 5,
wherein the illuminating light propagates in an illuminating light beam.

7. The scanning microscope as recited in Claim 5,
wherein the illuminating light beam forms a focus in the plane of the objective pupil.

8. The scanning microscope as recited in Claim 6 or 7,
wherein an additional beam deflection device is provided in the optical path of the illuminating light, said additional beam deflection device allowing the spatial position of the illuminating light beam to be changed.

9. The scanning microscope as recited in Claim 8,
wherein the additional beam deflection device directs the illuminating light beam in circles through the outer edge region of the objective pupil.

10. The scanning microscope as recited in one of Claims 4 through 9,
wherein the objective lens has a numerical aperture greater than 1.3, preferably between 1.35 and 1.42.

11. The scanning microscope as recited in one of Claims 1 through 10,
wherein a color-selective segmented aperture is disposed in the optical path of the illuminating light, preferably in the plane of the objective pupil.

12. The scanning microscope as recited in Claim 11,
wherein the outer edge region of the color-selective segmented aperture is transparent to light having the wavelength of the illuminating light.

13. The scanning microscope as recited in Claim 12,
wherein the inner edge region of the color-selective segmented aperture is transparent only to light having a wavelength greater than that of the illuminating light.

14. The scanning microscope as recited in Claim 12,
wherein the inner edge region of the color-selective segmented aperture is transparent only to light having a wavelength below that of the illuminating light.

15. The scanning microscope as recited in Claim 14,
wherein the illuminating light is preferably pulsed infrared light.

16. The scanning microscope as recited in one of Claims 1 through 15,
wherein the illuminating light includes a plurality of wavelengths.

17. The scanning microscope as recited in one of Claims 1 through 16,
wherein the point detector includes a multi-band detector or a spectrometer.

18. The scanning microscope as recited in one of Claims 1 through 16, wherein the point detector contains a detection pinhole.

19. The scanning microscope as recited in one of Claims 1 through 18, wherein the scanning microscope is configured as a confocal scanning microscope.